



MISSOURI BOTANICAL GARDEN

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GEORGE ENGELMANN BOTANICAL NOTEBOOKS

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Geology.

1400 Barrande, *Crustaces et Poissons Siluriens de la Bohême*. 127 pp. 8, p. new, 1872. .25
 1 Chamberlin, *Wis. Kettle Moraine*. 36 pp. maps, 8, p. new, 1878. .25
 2 Conrad, *Geol. of Maryland with 29 new Fossils*. Morton, Geol. of N. J. and Del.; Say, New N. A. Diptera and Hemiptera, etc. 66 pp. 3 pls. 41 figs. 8, p. 1. .75
 3 Same. *New Unio*, etc. 8, unb. 3 pls. 1868, new. .25
 4 Same. *New N. C. Fossils*. 28 pp. 3 pls. 57 figs. 8, unb. imp. .35
 5 Same. *Tertiary Fossil Shells of N. A.* 65 pp. 16 pls. 8, unb. new, incomplete, .35, or 18 pls. .50
 6 Same. 55 pp. 15 pls. 8, unb. new, incomplete. .20, or 14 pls. .20, or 11 pls. .15, or 4 pls. .10
 7 Dana, J. D., *Scientific Nomenclature*. 8, p. new, 1846. .20
 8 Dawson, *Story of the Earth and Man*. 417 pp. pls. and other ills. 8, 1875, new. 1.50
 9 Foulke, *Fossil Reptile, N. J.* 8, p. map, 1. .25
 8420 Emmons, *Manual of Geology*. 290 pp. many pls. 216 figs. 1, 1860. .90
 1 Gabb, *Conchological Scrap-Book*. Recent and Fossil. .25
 2 Index to Genera and MS. Notes, 8, unb. 54 pp. 106 col. and 373 other figs. 1. 2.50
 3 Geological Magazine, Vol. I, 1864, 306 pp. 9 pls. other ills. 8, 1. 2.50
 4 Gosse, Nat. Hist. of Creation. 384 pp. ills. new. 1.60
 5 Hall, *Orthis Jamesi*, etc. 8, p. 1859-60, 1. .30
 6 Hays and Horner, *Mastodon*. 4to. unb. new. .25
 7 Heer et Capellini, *Phyllites Crétacées Nebraska*, 22 pp. 4 pls. 30 figs. 4to. p. F. very scarce, 1866, 1. 1.25
 8 Koninck, L. De, *Monographie des Genres Productus et Chonetes*. 263 pp. 20 pls. 417 figs. 4to. p. F. new. 3.50
 9 Same. *And Fossiles Carboniferères en Carinthie*. 2 vols. 380 pp. 8 pls. 585 figs. 4to. p. F. new. 5.00
 8430 Same. Et H. Le Hon, *Crinoides Carbonifère et Genre Woodocrinus*. 217 pp. 8 pls. 161 figs. 4to. hf rn. F. new. 5.00
 1 Lancaster, *Volcanic Manifestations in N. E.* 4to. p. new, 1873, F. .25
 2 Lyell, *Coal-Field of E. Virginia*. 28 pp. 3 pls. ills. 8,

6g Same. Vol. I. 446 pp. 8, 3. .60
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 6i Cope, *Cretaceous Vertebrata*. 360 pp. 57 pls. many figs. ills. 4to, 1875, new. 4.00
 6j Cotting, J. R., *Lectures on Geol.* 120 pp. 1. 1.00
 6k Dana, *Geol. and Min. of Boston, etc.* 108 pp. bds. 8, 3, 1818, scarce. 1.50
 6l Dana, *Some Points in Lithology*. 20 pp. 8, p. new 1878. .25
 6m De la Beche, *Geol. Manual*. 535 pp. ills. 3. .30
 6n Eaton, N. A. *Geology*. 63 pp. col. map, 8, 3, rare. .75
 6o Fairholme, *Geol. of Scripture*. 288 pp. hf cf. 1. .50
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 6v Same. *Geol. of Mass.* 44 pp. pls. ills. col. map, 8, unb. 1853, 1, very rare. 2.00
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 7 Lyell, *Principles of Geol.* 1334 pp. 9 pls. 3 col. maps, ills. and appendix with Deshayes Tables of Fossil Shells and Glossary, etc. 110 pp. 3 vols. 8, 1; 1.00, or in 1 vol. 834 pp. pls. ills. Appleton's new, 1.25
 For other of Lyell's works see No. 3872, 6335, 6337 and 6337a.
 8 Macfarlane, *Geol. Traveling Hand-Book*. 216 pp. map, 8, 1879, new. 1.00
 8a Mantell, *Thoughts on a Pebble*. 102 pp. port. 4 col. pls. ills. gilt, 1. 1.00
 8b Mather, *Geology*. 286 pp. ills. scarce, 1, .50, or cf. 2. .35
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Travels and Surveys.

8450 Bachelder, *Popular Resorts.* 390 pp. 152 ills. 8, 1876, new. .75

1 Ballantyne, *Hudson's Bay.* 328 pp. 8 pls. ills. 1. .35

2 Bartlett, *Explorations in Texas, New Mexico, California, &c.* 1168 pp. 41 pls. 65 ills. large map, 8, 2 vols. 1. 3.50

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8 Same. 1875, 92 pp. 20 pls. 8, p. new. 1.50

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8500 Ohio Geol. Survey. Mather's 2nd Rept. 1838, 286 pp. pls. maps, sects. ills 8, unb. unc. 1.50

1 Same. Newberry, Orton, et al. 1381 pp. col. maps, ills. 8, 2 vols. new, 1874, 6.00, or with 13 large maps in cloth cover. 7.00

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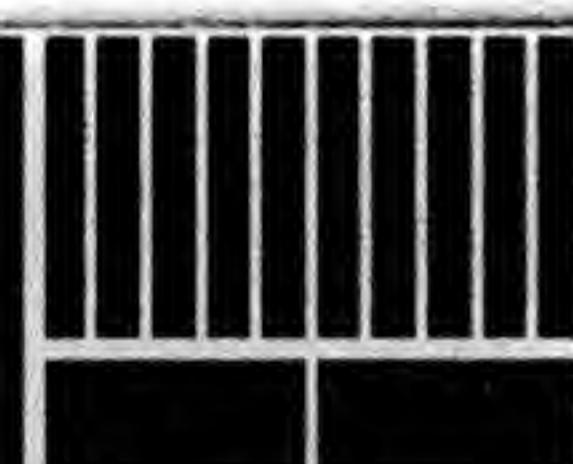
4 Perry, *Japan Expedition.* Vol. III, Jones, Obs. on Zodiacal Light. 353 pp. 352 pls. large 4to 1, 1.00, vols. I, II, and III, complete set, see Nos. 7708-11, and 4254-57. 7.00

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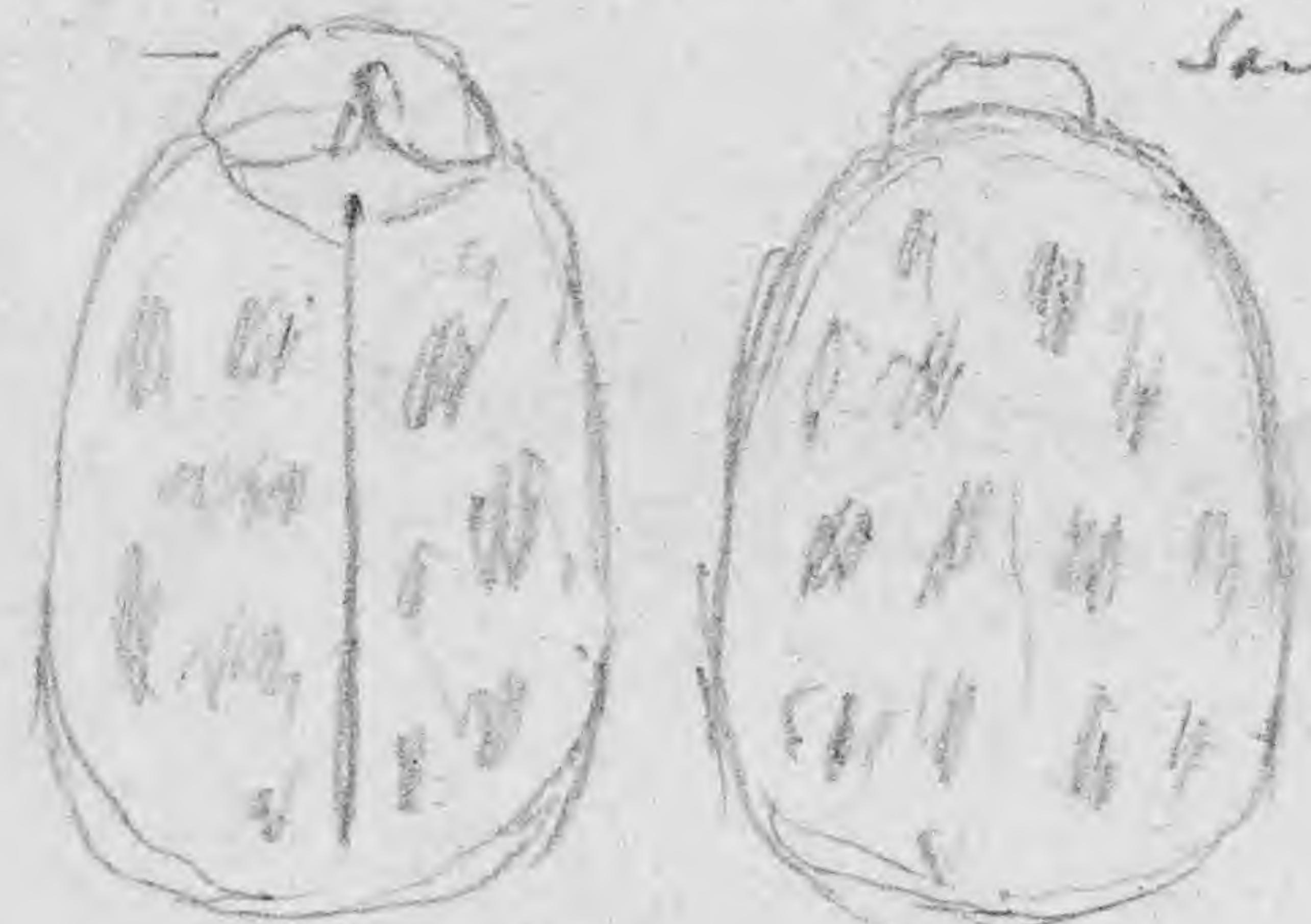


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Eoph. Palomari

Jan 6 1881

San Diego Co. Calif



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LETICE
CHARMAGE 1834

ARTH & OLIVE STS. ST. LOUIS, MO.

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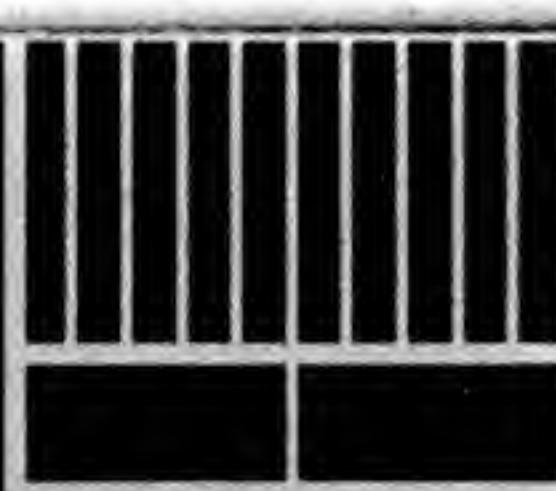
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E. Palmaria has sub-peltate leaves,
(i.e. *Asplenium* "sessile")
obtuse (as in sterile branch leaves, acute)
lower floral leaves rhombic, upper ones ^{transverse} broader
than long, obtuse (similar to *subpinnatifidum*)
involucres deeply hemispherical or conical
1 1/2 in long, glands exserte roundly blunt-horned
style short than ovary,
seeds oval thick 1 1/2 in long, with large cordate
adpressed capsule
in Druce's species
stems mostly simple, rarely a few branchlets



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C. R. GEORGE, EDITOR

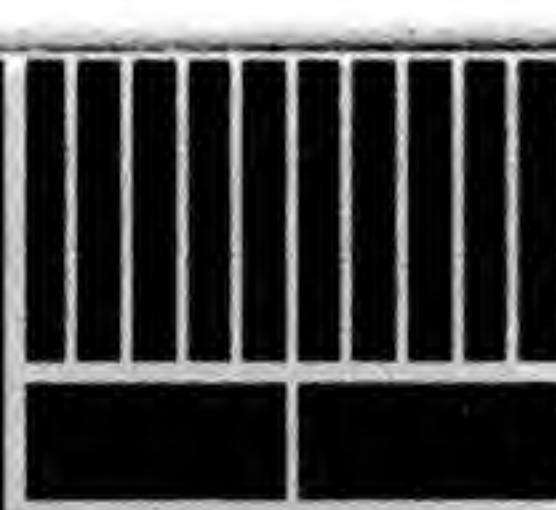
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ic results, and arrangements have been made for publishing
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Scientific investigators, and to fail to take advantage of its
it of Science.

hest circles of Science, and the constant amazement

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Euphorbia Polymorpha

April 19 1881

J. A. Gray No 572

$\times 10$



$\times 10$



In Bemidji Mts.



$\times 10$

572. a

San Diego Co.

Seed unripe
in rose, with caruncula



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U. S. Fitch & Son
DRUGGISTS
Savile Row, London, and
New York and
Water Street, New York

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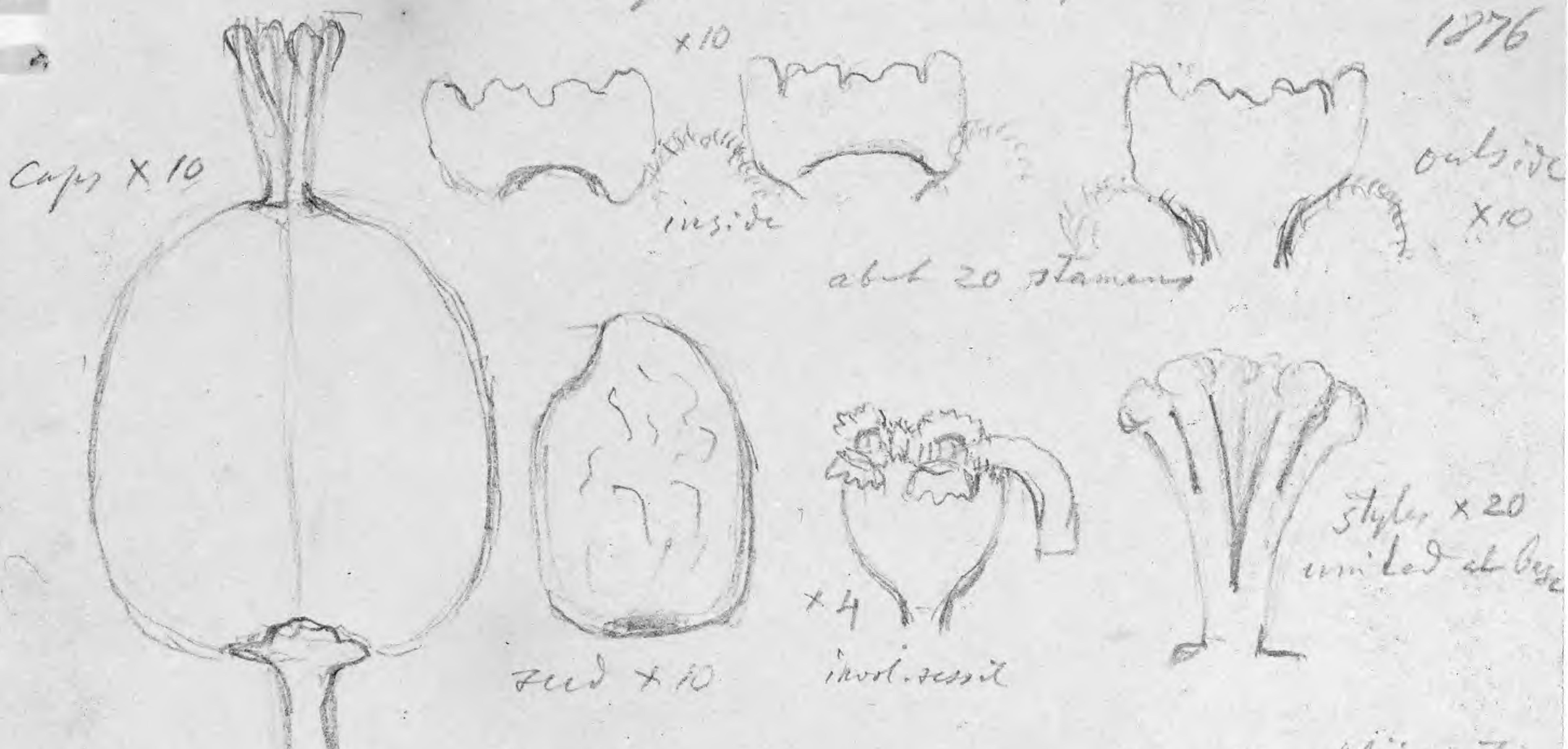
Euphorbia Palmeri Engelm. n. sp.
Bot Calif 2. 75

Jan 14 1876

Tally's South Calif. S. Palmer

x 10

1876



over
(because unripe?)

2, multiorbis, foliis ovaliis,
obtusis brevite petiolaris, super-
ioribus strobilis sessilibus
ramulis floriferis sic axillis emittentibus,
umbellae 5-fidae ramulis his bifidis
foliis involucellis transverse ovatis, involucellis compunctatis, glandulis trans-
versis appendicibus crenatis, viae cornutis, lobis orbiculis, ciliatis - stem 20 - cm



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Leitch & Corlies

DRUGGISTS

South West Corner Fifth and Market Streets.

6777

stipee *Battiscombei* ad med-
er. fidei, apice inviolata;
caput ex contac. *Battiscombei*; secum
magis in (matem?)

stems 9-15 dm. high
fol. 6-7 dm. long - caps. 2 dm. long
sem. $1\frac{1}{3}$ dm. long. - yrs. leaves purple

on sterile slopes lower mountain
parts and attained at base but
rarely perched

ad. It. to *schizoloma*, which comes from
west of the Colorado - but that has 3 rays
in bell, much larger involving into glab.
Lanceolate, and the anthers transported longer



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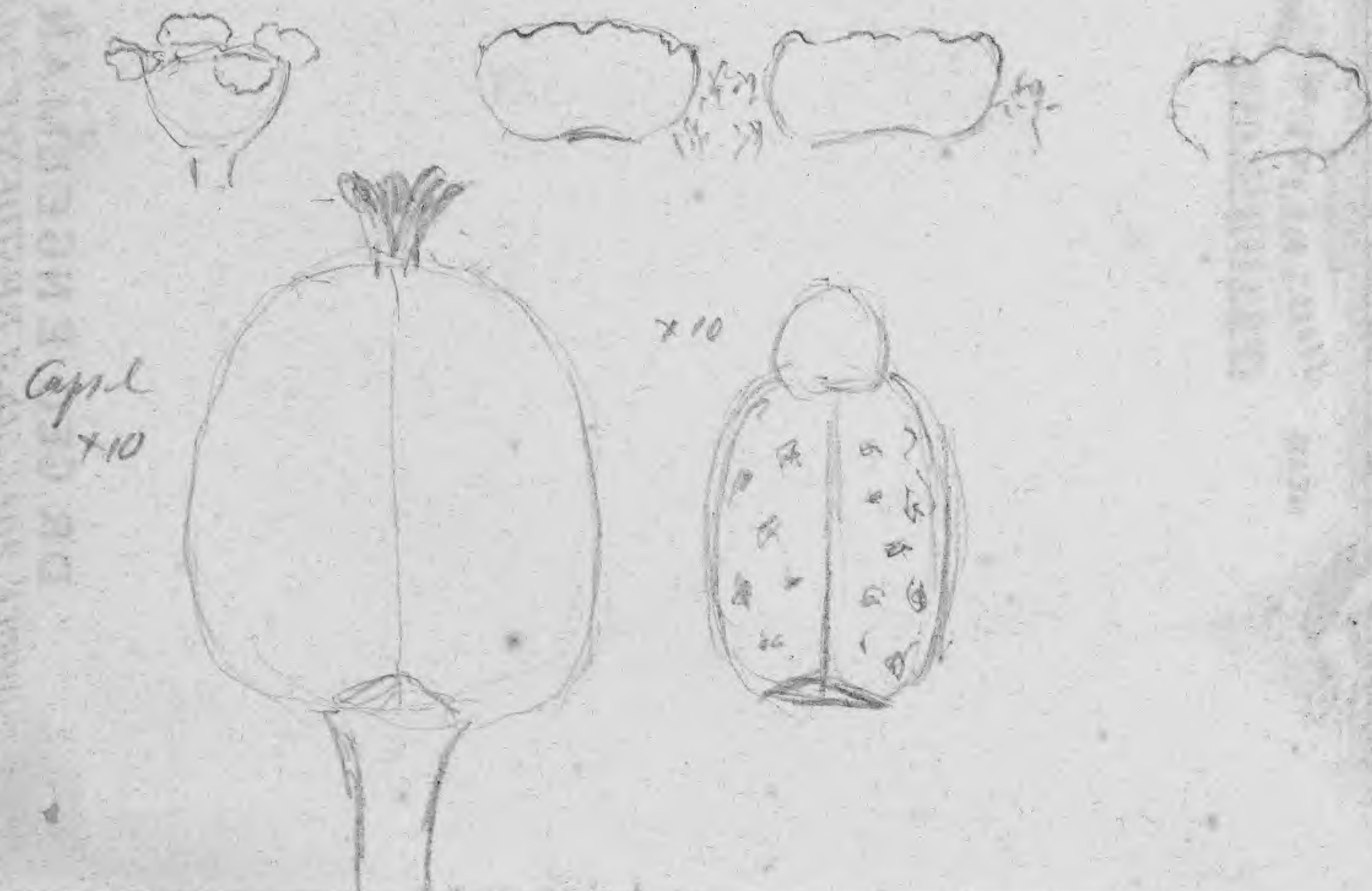
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Ceph. Peplis fabrigella, Long Jan 11 1878

Alt 440 Palmar S. Utah 1877
near Shijo Gorge



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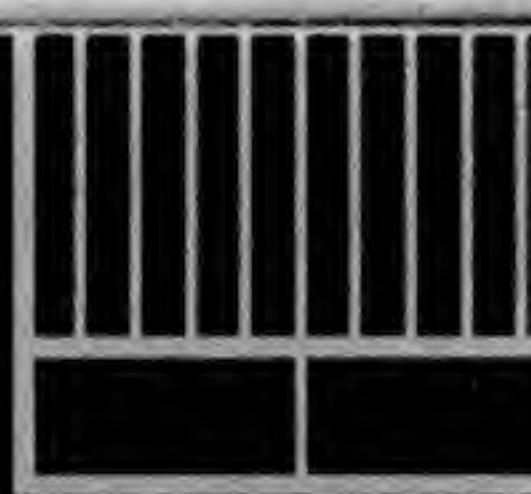


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6778

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DR. GEO. ENGELMANN,
OFFICE: 201 S. 5th St. RESIDENCE 3003 Locust St.



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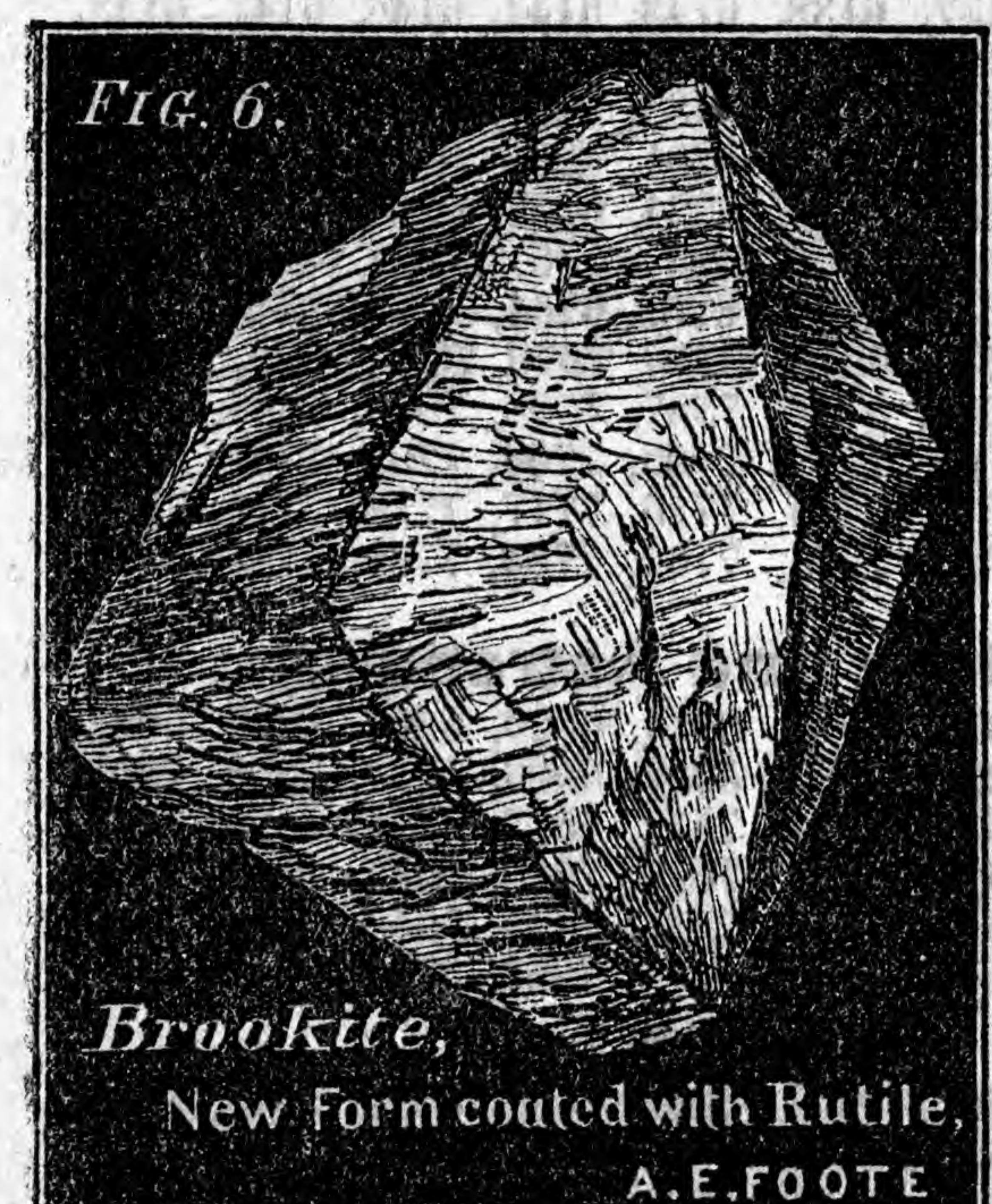


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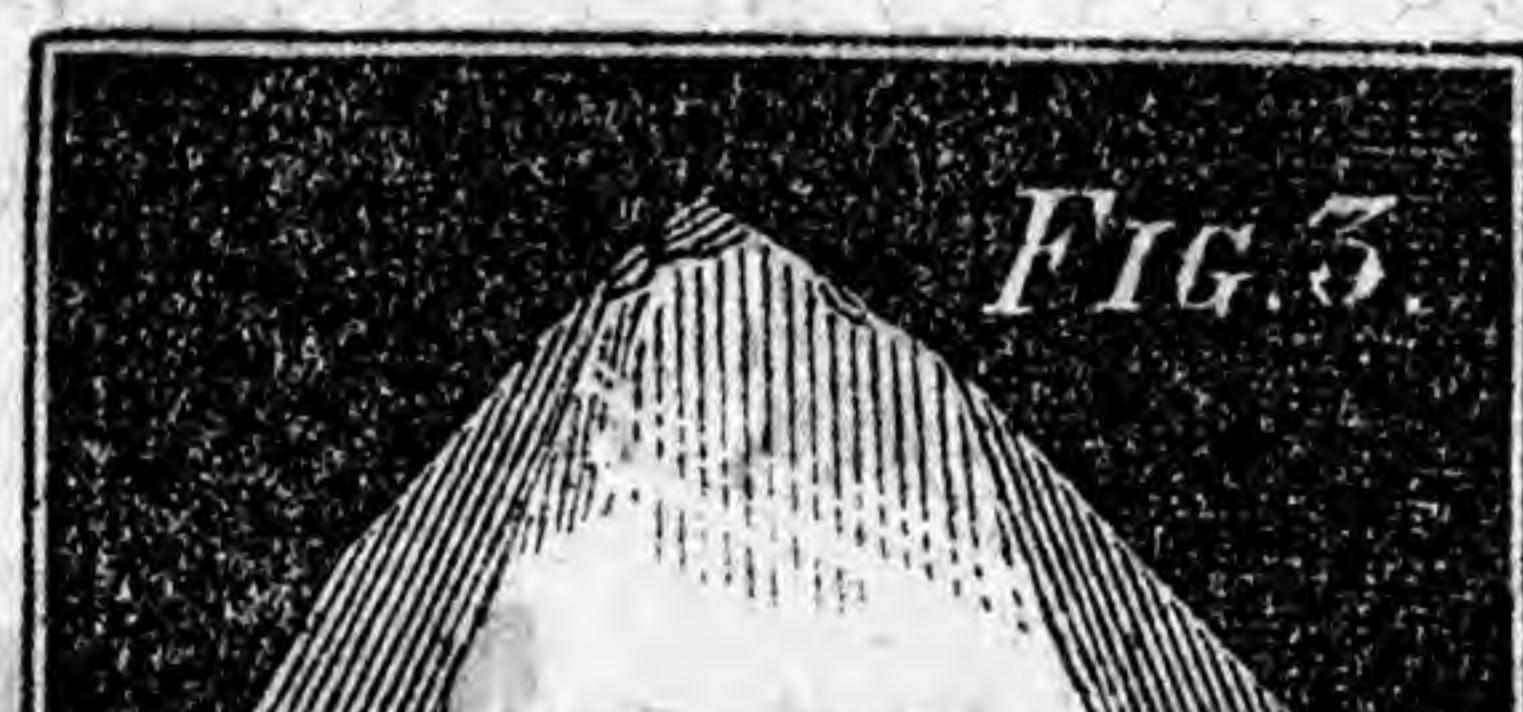
investigation and discovery and there are but few of them that are wealthy, that have not collections of their own. My trip to Arkansas, also furnished Des Cloiseaux, with the purest material for the determination of his new species Microline, König's Hydrotitanite, Von Rath's new form of Rutile, etc.

I am selling Brookite and Rosettes of Rutile, Perofskite, etc., at less than one-tenth the price they were held at, when I visited the cove, in 1874.

Good crystals of Brookite, 15 cts. to \$5 each; Rutile and Brookite, 25 cents per lb.; Hydrotitanite crystals 25 cts. to \$5; Schorlomite, 25 cts. to \$3;



Menaccanite, 15 cts. to \$2. Other titanium minerals kept constantly in stock.



paper (or two) of somewhat greater diameter (10 c.m. greater diameter). This prevents any danger of the earth getting on to the first paper. Those precipitates which Bunsen burns on the wire while still damp are ready for incineration after five or six minutes on the earth.

This remarkable absorptive power makes an excellent lecture illustration. Two filter-papers are dipped in water and exhibited. One is then placed in a thick layer of the earth and firmly pressed. The adherent earth is then scraped from the paper by a stroke with a table-knife. The two papers are now shown side by side, and make a striking contrast.—P. TOWNSEND AUSTEN, in *Chemical News*.

Richmond infusorial earth, 25c. per lb.

Nevada " " 50c. per lb.

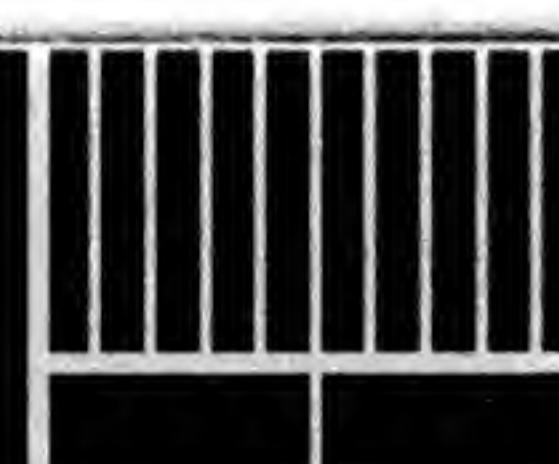
As it is very light, 1 lb. will last a long time.

Tantalite.

From Coosa County, Alabama, its mode of occurrence and composition; by J. Lawrence Smith, Louisville, Ky. (*Amer. Journ. of Science and Arts*, March, 1878.)

While columbite has been long known from a number of localities in the United States and at some of them it is found in great abundance, the related mineral tantalite has never been identified, until recently I proved the fact of its occurrence in Alabama.

It is found in Coosa County, Alabama, detached from any rock, lying loose with "boulders" (as Judge Bently calls them) of granite more or less disintegrated. As, however, this region belongs to the older series of rocks (Professor Eugene Smith, who furnished the first material to me, has not yet explored it) these blocks of granite are doubtless not boulders, but detached masses.



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The Naturalist's Museum.

"The growing demand for objects of Natural history on the part of colleges, schools, students and amateurs has led a few years ago to the establishment of the Natural History Museum of Professor A. E. Foote, situated on Belmont Avenue in Philadelphia. Already in a former issue we took occasion to refer to the great service the professor rendered to science by this timely step, and also to his great and persevering efforts in making it a model institution. In this, we are happy to say, he has completely succeeded. His spacious building well adapted for the purpose, abounds in rich and choice collections illustrative of the various departments in natural history; whilst his facilities for collecting specimens and his arrangements for supplying the demand are admirable. Of the many collections, gathered from almost every part of the globe, we will, for want of space, refer only to his immense collections of minerals, upon which an unusual amount of care, labor and money has been spent. Imagine a display of more than 100,000 specimens of choice minerals well arrayed and classified. What a sight! The greatest part of these are collected by experienced persons employed by the professor in the United

Travels; Voyages and Surveys.

4133, 4134, 4135, 4140, 4142, 4144, 4145, 4148, 4150, 4151, 4155, 4156, 4157, 4159, 4162, 4163, 4165, 4167, 4169, 4170, 4173, 4174, 4175, 4177, 4178, 4179, 4180, 4181, 4182, 4184, 4186, 4189, 4190, 4192, 4193, 4195, 4198, 4199, 4202, 4203, 4204, 4205, 4206, 4208, 4210, 4212, 4213, 4214, 4215, 4216, 4217, 4218, 4219, 4220, 4221, 4223, 4225, 4226, 4227, 4229, 4230, 4234, 4235, 4236, 4238, 4241, 4243, 4249, 4250, 4252, 4254, 4255, 4256, 4257, 4258, 4259, 4260, 4261, 4262, 4264, 4268, 4271, 4273, 4274, 4279, 4282, 4283, 4284, 4588, 4289, 4290, 4293, 4302, all P. R. R. Surveys, 6124, 6127, 6132, 6133, 6134, 6135, 6137, 6138, 6143, 6144, 6146, 6147, 6148, 6149, 6151, 6157, 6158, 6160, 6162, 6163a, 6168, 6174, 6176, 6178, 6179, 6181, 6182, 6183, 6185, 6186, 6187, 6187, 6189, 6190, 6196, 6197, 6199, 6200, 6201, 6206, 6212, 6214, 6215, 6217, 6219, 6220, 6221, 6223, 6224, 6228, 6232, 6233, 6235, 6238, 6240, 6241, 6243, 6245, 6247, 6250, 6250a, 6252, 6252a, 6253, 6254, 6256, 6257, 6260, 6263, 6264, 6265, 6265a, 6270, 6271, 6276, 6277, 6278, 6279, 6280, 7676, 7678, 7679, 7679a, 7582, 7583, 7584, 7585, 7586, 7587, 7588, 7589, 7590, 7591, 7594, 7598, 7599, 7701, 7702, 7703, 7704, 7705, 7707, 7708, 7709, 7710, 7712, 7713, 7714, 7716, 7717, 7719, 7721, 7722, 7723, 7727, 7728, 7729, 7731, 7732, 7734, 7735, 7736, 7737, 7738, 7740.

Meteorology and Astronomy.

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Euph. subpubescens Engelm., name only in Atch. of Calif
2.76

glabrous; purple
V several stems a span high from a short rootstock; covered
with numerous leaves; leaves ^{small, 3-6 l. l.} orbicular - obovate,
oblique, sessile with a narrow base; the lowest ^{long} much the smallest,
umbell 5-rayed; ^{long} floral leaves orbicular,
upper ones transverse, much broader wider the base,
bottom ones concolorous;

involucel hemispherical, $\frac{1}{2}$ l. l. long, glabrous but velvety,
~~oblique~~ ^{ovate} ciliate; style ~~and~~ adaxial, ~~white~~ ^{orange} the orange.
fruit —

Prescott, Ariz., D. C. Palmer 1876

well branching ^{leaves} bearing the pubescence by the
way short round hairs and transverse flock
leaves.

for figure see herbarium



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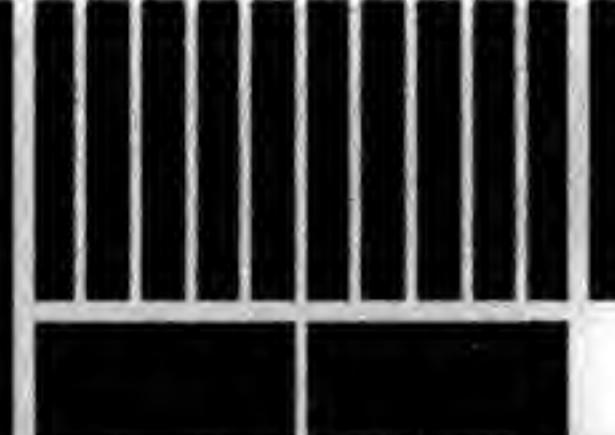
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Dear Dr. Engelmamm,

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GEORGE ENGELMANN PAPERS

Can this

~~Euphorbia~~ or ~~E. adenoptera~~,
Benth. ? It is exactly like
1447^c Coulter, which is put
under that species, but it looks
to me peculiar.

Here is a cotton too that
is unlike anything that we
have, and I do not ascertain
in locating it by Miller in
go. *Prosthemma*. = *C. coriaceum* Engt
Young by ^{but whence} Miller
Signed Watson



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CONTENTS AND CLUB RATES OF NATURALIST'S LEISURE HOUR.

30
11/18
Byrd
12/18
Mosby

YOU are respectfully requested to hand the LEISURE HOUR to a nature-loving friend, when you do not wish to preserve it longer. By so doing you will confer a double favor.

A SHORT time since, I received from a lady in a small town in Ohio, a club of sixty subscribers. The lady was an utter stranger to me, and my establishment, yet she raised this club within a few days after she had herself received the first LEISURE HOUR.

There is probably not a town of 2,000 inhabitants in the country, where a similar club might not be raised, and if each person to whom this number is sent would but exert themselves, the subscription list might be quadrupled, and the interesting reading matter in the LEISURE HOUR, quadrupled by the first of next January. I firmly believe that the good influence of sixty copies of the LEISURE HOUR, among the young people of a town of 2,000 inhabitants, could not be overestimated.

Of course I have no claim on anyone because I send them the paper, but I hope that the fact that a reading of the NATURALIST'S LEISURE HOUR, and the love of nature induced thereby, will supplant the reading of "blood and thunder weeklies," and the collecting of postage stamps and autographs, will induce all who receive this to exert themselves somewhat in my behalf. The fact also that I am striving to build up a great retail depot of Natural History Supplies, where scientific men may find the material that is almost indispensable to their studies, entitles my enterprise to the favorable consideration of all educators, scientific and medical men. If I can double my subscription list by next January, I shall increase the size of the NATURALIST'S LEISURE HOUR, to 32 pages. I can offer the following exceedingly favorable rates for new subscribers.

CLUB RATES.

Single subscription, 50 cts. As premium, 25 cent specimen, on receipt of postage, which will be from one to 10 cents, according to the weight of the specimen you wish us to send. All club subscribers receive the premium, and persons getting up clubs are

expended more than twice as much upon the paper as I have received in subscriptions.

Persons canvassing for subscribers will do well to call attention to the following articles that have appeared during 1877 and 1878. 1879 will be far more highly illustrated, and contain more articles of popular interest.

Attention is called to the fact that many original articles describing new species have been published.

1877, JANUARY.—*Huxley*, on importance of studying Nat. Hist. *Proustite*, &c., illus.

FEBRUARY.—Natural Objects a Source of the Highest Pleasure, *Huxley and Ruskin*; Prehistoric Relics, illus.

MARCH.—Nature and the Child, *Longfellow*; The Love of Money the Root of all Evil; Chilian Minerals, illus.; *Astrophyllite*, *König*, illus., &c., &c.

APRIL—MAY.—Catalogue of Shells; Paramorphosis of Rutile after Brookite, *Vom Rath*; *Variscite*, *Chester*; Gems and Ornamental Stones, *Jet*, *Vivianite*, &c., &c., illus.

JUNE—JULY.—Columbic Acid Minerals, *J. L. Smith*; *Protovermiculite*, *König*; *Microcline*, *Dufrenite*, *Labradorite*, *Spinel*; Permanent Exhibition; New Species List, &c., &c., illus.

AUGUST—SEPTEMBER.—*Genth* on Tellurium Minerals; Meteorite Greenland, Quartz, Amber, Mellite, &c.

OCTOBER.—*Genth*, on Tellurium Minerals, Amethyst, Collections, &c.; *Travelli*, on Permanent Exhibition.

NOVEMBER.—*Cope*, on Ichthyic Fauna, &c.

DECEMBER.—*Ankerite*, *König*; *Lavendulite*,



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Parties who are prompt in ordering books will almost invariably get what they order, but even if they do not, it is an advantage to them to order, as I am pretty certain to get what they wish, as I am buying more scientific books than any other dealer in the United States. Of course there are many books so rare that copies are only offered at long intervals. **POSTAGE MUST BE PRE-PAID.** As my books are so low that they go off very rapidly, parties at a distance will do well to send a secondary list to be selected from in case their first choice is already sold. Where a return of money in case of books sold is not specified, it will be held and a special effort made to get the books for customers. Often heretofore a special request to get the books as soon as possible has been made. Almost any text-book furnished at half the publisher's price, even if not on my catalogue.

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All books cloth, octavo or smaller, unless otherwise specified; 8 is octavo; 4to is quarto; F French; G German; L Latin. To save space books are numbered by 10s and units; thus 3 is 8453, &c.

Especial attention is called to the lists of books previously catalogued of which I have recently bought other copies. The numbers will be found on another page.

Where parties are willing to pay a little higher than my catalogue price, I can frequently get the books for them at the N. Y. and Phila. stores. When parties are ordering books of me, they can have other books sent in same package, without extra charge; any book that is on sale in N. Y. or Phila. procured, packed and shipped at dealers' regular retail rates, without charge. Subscriptions taken for all scientific periodicals.

It is believed that the prices on scientific and medical books are from a half to a third lower than those of any one else making a specialty of them. They are much lower than those of most dealers, even if they do not catalogue. This is mainly due to the fact that I do not wish to *carry a stock* of second-hand books.

The **NATURALIST'S LEISURE HOUR** is sent free to all subscribing to the following journals through me.



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Euphorbia mollis n. sp. Eng.

Jan 6 1892

(*E. mollis* Griseb. sp. nov.)

Arizona Single

South Catalina Mts.

glad = R. Palmer

$\times 10$

$\times 10$

$\times 10$



glad curled up
rounded



seed with
cavities 1/4 in long



seeds gray, oval
with numerous
small black shallow
impressions, wormlike
cavities cut

Over



0 1 2 3 4 5 6 7 8 9 10

cm

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mollis Gomphus
= perlosa

Marble Building, Cor. Fourth & Olive Sts., St. Louis, Mo.

Euph. millis — ~~softly pubescent~~
several stems, a foot high, from a short rhizome
often with sterile branches from the lower part,
leaves ~~ovate or~~ ^{lanceolate — length, 4-5 l. wide} obovate acute, attenuated into a short petiole,
often rounded ^{lower} ^{broadest} ~~upper~~
unifoliate 5-angled, floral leaves ~~oval~~ longer than wide
upper ones nearly ~~round~~ ^{oval}, ~~oblique~~ ~~all~~ ~~purple~~ at both ends
involucres (subtriangular, narrow) ^{1/2 l. long. glaucous}
with 2 short blunt horns and between the butts
soon rounded; styles naked at base. bracts round 5-
nerved hairy with long ^{pubescent} ~~hairy~~ wings; seeds
thick oval ^{1 1/2 l.} with long ^{coarse} ~~cambræ~~ — ash gray with
numerous small black shalls ^{present} ~~impressions~~ ~~flanstones~~
irrig. ($1\frac{1}{2}$ in. long).
This and ^{subglobose} ~~subglobose~~ are the only varieties of our
flora.

MISSOURI BOTANICAL GARDEN
PAPERS

2829



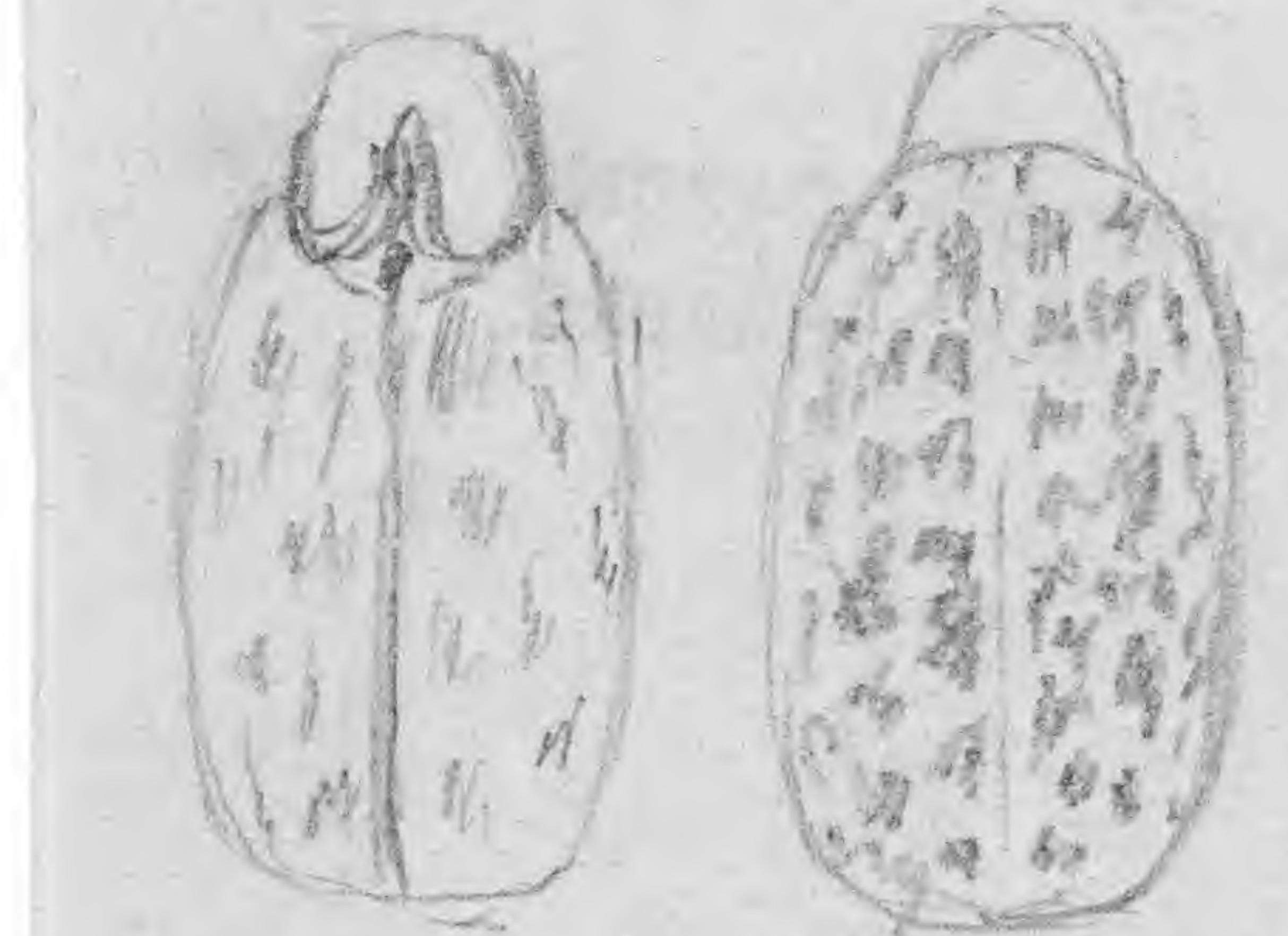
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C. odontodon Jan 6 1882
weight 661



surface, gray,
with rather regular
small dark impress.
more on the back,
larger, paler and
finer on the ventral
side; comas
large, fibrous, white
seed $1\frac{1}{2}$ in long



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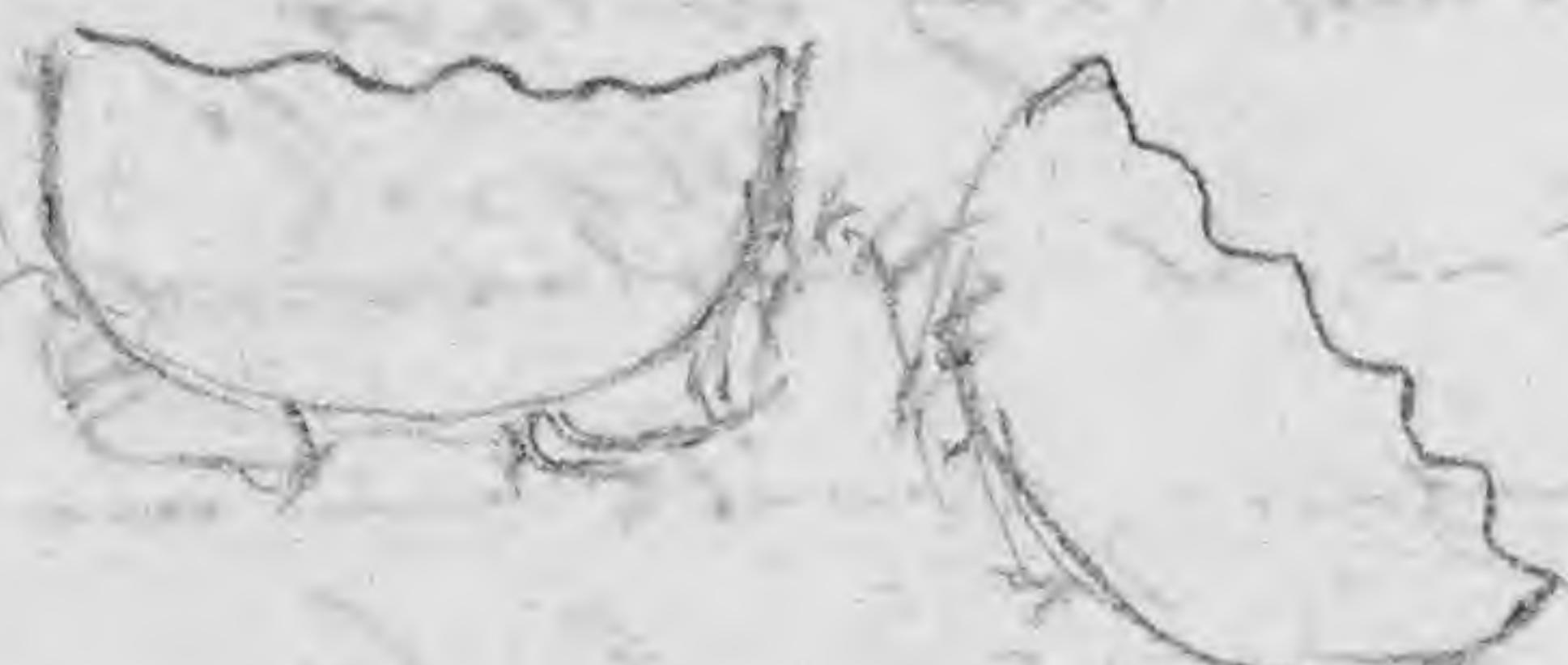
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Euphorbia Parryi var. rugosa Jan 6 1982
South Rito Mts. Arizona. Parry 138

$\times 10$

$\times 10$

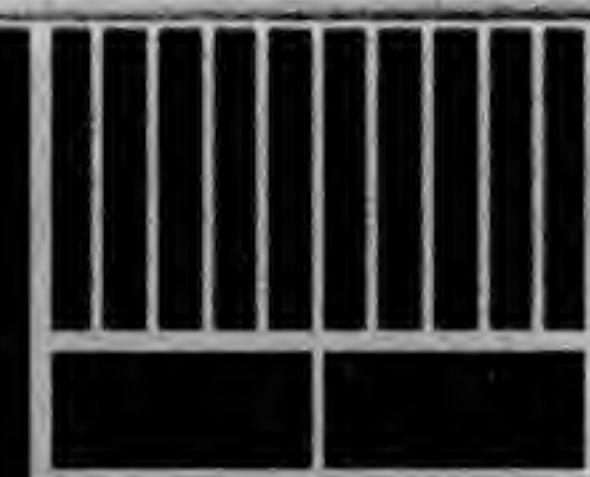
gladys = euphorbia



seed 2 cm
long

seeds cylindrl oblong
with small erect caruncles
pointed at the lower end

dark, with very very shallow
darkish impressions, principally
on the back



0 1 2 3 4 5 6 7 8 9 10

cm

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6784



Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

Euphorbia

Stems many stems a span high from a short vertical (black waxy) rhizome, branching only at base very glaucous, very lousy; leaves ^{sessile} minute oblongovate, alternate at base, short petiolate; l. with long petioles $\frac{1}{4}$ as wide ~~about~~ need ~~3~~ 5 rays, broad ^{floral} involucellate leaves obovate, upper ones nearly triangular with a acute base; involucres tubercles $\frac{1}{2}$ l. long glands transverse obtusely dentate; lobes hairy with straight midrib at base $\frac{1}{3}$ branching down to middle a little longer than ovary, seeds oblong - obovate ²⁶⁵ apiculate at base with a small caruncula. ²⁶⁵ dark, with very shallow ^{numerous} darker impressions, more on the back the ventral side.

The Cuban Euphorbia of the S.W. have a considerable family likeness in their mode of growth, dentate involucres glands, mottled but roundly pointed seeds.

The point ~~at~~ the curved of seed is quite ~~sharpened~~
of course; all the other spine have ~~one~~ or ~~two~~ base
of seed.



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